

Newsletter

April 1995

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*Commodore Users
Group of Ireland*

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The deadline for articles for the next Newsletter is 30 June 1995.

Editorial

WELCOME TO the April Newsletter. No, you're not suffering from a localised timewarp. . . you're just reading the most delayed newsletter in the history of CUGI. While it's true that this delay has enabled us to bring you the most up-to-date information available about the sale of Commodore, this is only part of the reason why it's so late. (You can read more about Commodore—much more—later on in the newsletter.)

Windows? Sigh. . .

If you read the editorial in the January issue, you may already suspect the real cause: for the past three months, I've been away in the United States working to develop Windows (ugh!) video drivers for a hot new 3D graphics chip, the Artist 3GA. Well, the chip arrived more or less on schedule (if you take into account that it was about a year later than originally planned!), and amazingly, literally worked first time! For a chip of this complexity—about 100,000 gates—that's almost unheard of in the semiconductor industry.

As it later turned out, there *were* a few small glitches in the chip which, while not crippling, did require us to produce a second run to correct them before we had a shippable product. Now, this is where fortune shone our way. One of the features of the 3GA is that it includes full onboard 32-bit VGA emulation, and this was achieved by simply buying in a VGA core—a chip subsection which is essentially bolted onto the side of our 3D design on the same piece of silicon as a separate unit. The particular VGA core we chose was a new, and very fast design, which had not yet been tried out in silicon, and as part of the development agreement, the VGA supplier agreed to cover the cost of a second run if the VGA core included any serious bugs.

As you have no doubt guessed, there was indeed a serious bug in the VGA core—any program which rapidly updated the screen (such as Doom, or almost any other game) produced a very distracting flicker all over the screen, rendering the game almost unplayable. (Who would buy a graphics card these days that couldn't play Doom?)

Sure enough, the VGA vendor lived up to their side of the agreement and covered the cost of a second chip run—which costs about \$100,000!—and so we got to fix our own minor bugs for free. (You'll have gathered by now that chip design is a rather expensive business, unlike software development which costs almost nothing except for programmer's time.)

As for the chip itself, it performs exceptionally well. We had estimated its performance prior to the silicon becoming available, and when we actually ran tests, it turned out to be even faster than we expected! Some figures to bore

you with: peak fill rate is 1.7 billion pixels per second; screen to screen copy at 60 million pixels/second; 2 million lines/second; 120,000 gouraud-shaded 3D lines/second; 70,000 gouraud-shaded polygons/second; 60,000 gouraud-shaded 3D polygons/second; 30,000 texture-mapped polygons/second. (Yes, that first figure really did say 'billion'—or to put it another way, a 1024×768 display at 75 Hz can be completely redrawn 28 times in the fraction of a second it takes to trace a single frame on the monitor.)

So, you may well ask, what does all this have to do with the Amiga? Well, not a whole lot I'm afraid (though since the 3GA has built-in support for the PCI bus, next generation Amigas may well be able to make use of it). However, since the 3GA was the reason I was kept so busy over the past few months, I figured you might like to hear a little more about it.

Sad to say, my return to Ireland has proved somewhat temporary. On 4 July, I depart for American shores once again, for another three months. Of course, I have a trusty Amiga 3000 waiting for me over there, so I won't be completely cut off from the Amiga world. I might even get a chance to work on SnoopDos 3.1 if things go well.

Commodore! What's happening with Commodore?

Okay, enough about my work, let's get on to the subject on everyone's minds. I'm sure that by now, you've heard that Commodore have *finally* been sold to Escom, a german PC manufacturer that is looking to expand into the multimedia market. But how did this come about? And what happened to CEI in Miami and Commodore UK? And weren't Samsung meant to be interested too? And...

Patience, for all shall be revealed. In summary, after almost a year of legal wrangling (during which time Commodore's assets were devaluing at a frightening rate!) the liquidators eventually decided to auction off the company to the highest bidder.

As anyone who reads the UK magazines will have seen, Commodore UK fully intended to put in a bid for Commodore. However, it seems that as the auction drew closer, their financing dried up (or else it became clear that it would not be a match for that of Escom or some of the other bidders) and Commodore UK decided to work with the eventual winner instead.

You can read about the events at the auction in a separate article, so I won't dwell on them here. Similarly, you'll find a transcript of the press conference held by Escom to announce their plans for the Amiga's future, at the end of May.

But what of Commodore UK? (And, for the developers among you, what of Sharon?) Well, Commodore UK closed down at the end of May, having essentially run out of money to keep operating. However, I have heard that several of the key people there (including Sharon McGuffie and David Pocock) have been rehired

by Escom to work in Escom's UK Support Centre, based near Stansted outside London.

Escom have also recently purchased a string of highstreet computer stores in the UK (about 60 in all) which at a single stroke makes them one of the largest UK computer retailers. Obviously, Escom are fairly serious about entering the multimedia market in a big way.

But what of the Amiga? Don't Escom make PCs? Well, the press conference would certainly seem to indicate that the Amiga features prominently in Escom's overall plans, and the availability of a large retail chain to actively push the Amiga product line is certainly no bad thing. It remains to be seen whether Escom will have the same success as Commodore UK however (whatever else you might say about Commodore UK, they were certainly very proficient at selling Amigas!)

Looking forward

This is all well and good, but where does it leave the average CUGI member who has an expanded Amiga and runs a fair bit of serious software as well as the occasional game? It's a good question, and one I'm not sure I can answer.

In the next six to twelve months, the availability of A1200s and A4000s again will mean that those software developers who haven't already jumped ship and deserted the Amiga for the PC or Macintosh markets may well be convinced to hang in there a bit longer. This essentially means that there will be new application software for you to buy. If Escom have any sense, they will be doing a *lot* of courting of companies to make sure that this happens—after all, without software, the Amiga will vanish without a trace.

On the other hand, do any new customers want to buy Amigas in 1995, given that PCs have now largely passed out the Amiga in terms of software, hardware, and value? Certainly, the stagnation of hardware development since 1992 has hurt the Amiga badly and it now lags quite badly in the area of desktop graphics (as opposed to video graphics), though third-party cards like the Picasso and Piccolo help somewhat.

I think that if Escom want to make any inroads into the so-called professional Amiga market—people who use the Amiga as part of their job—they will need to come out with some radically revamped models, and soon. The revisions don't need to be revolutionary, and the technology is available right now. A simple example is a 68060-based Amiga with 24-bit graphics, onboard SCSI, and a tower case. Such a system can be constructed today by adding the appropriate plug-in cards. If Escom were to license the appropriate technology from Amiga third-party vendors and include it as standard in all high-end models, this would go a long way towards bringing the Amiga into the 90's.

There is so much left to be done. . . we can but wish Escom luck on what will

surely be a long and difficult road to success. For myself, I hope that the next computer I buy will be an Amiga. . . but perhaps a PowerPC-based Amiga.

That's it for now. Enjoy the issue (and many thanks to all those who submitted articles!) Articles for the next issue are due NOW, so don't delay — get them in ASAP.

E.C.

Amiga Auction Report

by Joshua Galun

Joshua Galun is the Editor-in-Chief of Amiga Link Magazine. Every issue of Amiga Link can be found in the docs/mags directory of Aminet. Joshua was on the scene when the auction to sell Commodore was taking place.

TODAY, after 12 long months, the Commodore bankruptcy *finally* ended. And, like the whole bankruptcy up to now, it was not without many problems.

In the auction on April 20, only two companies had bid, Escom and Dell. Escom was the German computer retailer, and Dell is a big American computer company. CEI, long thought to be a bidder, had thrown in their hat with Dell, so that Dell would work with CEI on the Amiga, although CEI would be the ones running the show in respect to the Amiga. Escom's bid was the starting bid of approximately 5 million dollars, as well as the money they spent on the Commodore trademark, approximately 1.3 million dollars. Dell made a bid at 2 PM of an undisclosed amount. However, that bid was rejected for Escom's bid, because it had conditions attached to it, whereas Escom's bid was unconditional.

After the auction ended, and Escom's bid was accepted, Dell continued to work on, trying to make a more suitable bid. Their second bid was a \$15 million bid, with the condition that they be allowed a 30 day waiting period to look at the Amiga and decide if they wanted to keep it. If they decided not to keep it, they would forfeit their \$1 million deposit, and the whole process of getting another bidder would have to go on again.

In the hearing on Friday, April 21, the Creditor's Committee wanted to accept Dell/CEI's bid. However, Escom felt that was unfair, because Dell's bid was placed after Escom's bid was accepted. There was much legal wrangling, but finally, the judge asked that during the recess the parties try to work out an agreement. After 3 hours, the court re-adjoined, and Escom said that they would agree to raise their bid by \$6.5 million, to 12 million dollars. Although that was less than Dell/CEI's

bid of \$15 million dollars, the Creditors agreed to drop the objection to stop Escom winning the Amiga, because Dell could back out of the deal and then they'd have to go through the process again.

Escom is working with a Chinese manufacturer to make Amigas, and they said that they should have new Amigas on the market within 2 months. They have said that they are interested in upgrading the Amiga to the Power PC chip, although they have said that the future is wide open, and that no technical decisions are set in stone. They have already hired many former Commodore technicians and workers to work on the Amiga once again. Escom has said that they will sell Amigas in all their stores, and that they may also use the Amiga technology in other products, such as set-top boxes, as well as possibly licensing Amiga technology to other companies interested in making Amiga clones.

Escom had sales of approximately 2 billion dollars last year.

Escom apparently wants to enter the American computer market, but felt that entering with PCs alone would be very tough, as there are already many PC retailers in America. As such, they wanted to have a new technology, such as the Amiga, to bring to American markets. Escom has said that they will be setting up an American operation very soon.

Commodore UK did not place a bid at the auction, apparently because their backer dropped out. However, Colin Proudfoot of Commodore UK and Escom have both stated that in 2 weeks they will be holding talks as to Escom either licensing Amiga technology to Commodore UK, or, more likely, buying Commodore UK.

Escom has said that they will work with Amiga developers, user groups, and the Internet to support the Amiga.

The Phillipine plant and the stock in it wasn't included in the auction, but it will most likely be sold to Escom for \$1 million soon, because it may actually be illegal to sell it to anyone other than Escom.

All this information is true. I was at the hearing on April 21, all 8 hours of it. I would like to thank Jason Compton, for bringing so much news to the Amiga community during the dark time of the buyout. I would also like to thank Georgio Gomelsky, for bringing me into the Commodore hearing and getting me interviews with Colin Proudfoot and the head of the Amiga operations at Escom, and the great Amiga PD/Shareware developers, who make some of the best products out there for little monetary compensation.

And finally, I'd like to thank the whole Amiga community. You guys have given me some of the best times of my life, and for that I am eternally grateful.

Escom Press Conference

On May 30, 1995, Escom held a press conference in Frankfurt to discuss their plans for the future of the Amiga. The following three speeches were delivered at that conference. Thanks to Gilles Bourdin at Amiga Technologies GmbH (gbo@ramses.fdn.org) for supplying these English translations.

Introduction

Petro Tyschtschenko

General Manager, Amiga Technologies GmbH

Ladies and gentlemen,

As the General manager of Amiga Technologies GmbH, I would like to welcome you to the first press conference of our new company and also tell you how much we appreciate your presence here.

At a spectacular auction, five weeks ago in New York, ESCOM AG acquired the rights to the intellectual property of the former Commodore company for 10 Mio \$, including all trademarks, logos, products and licences.

Since the day we succeeded in buying the Amiga technology, many people have asked us how the future will look for their computer of choice. We got floods of anxious faxes and letters to which we couldn't give an answer at once because things were too early to comment. We will use the opportunity we have now to talk to all of you and present the new Escom daughter company, Amiga Technologies. Some leading developers of hardware and software for the Amiga as well as some of our new licensing partners will present themselves and their projects to us.

To clear up things from the beginning—and that's the point you are all interested in—I want to make the commitment that we are determined to resume production and also want to continue hardware and software development of what we believe is a superior technology. That's why we created Amiga Technologies and we are now hiring the best and most capable people to accomplish this.

For a successful Multimedia company like ESCOM, the Commodore Patents and licences concerning Amiga are considered the key to multimedia technology. Mister Schmitt will say more about this later.

But let's concentrate on our immediate plans. As the director of Amiga Technologies, my first priority now is to resume production of Commodore and Amiga computers and bring them on the market as soon as possible. For us, this means September 1995.

I would also like to refer to Commodore computers. Pentium PCs, which will be available in August this year. These will be fully loaded P75 and P100 multimedia PCs. They will be assembled in our own ESCOM facilities. We plan to sell between 50 000 and 60 000 units before the end of this year. Let me point out that the Commodore and Amiga operations will be separate: Amiga Technologies will only take care of Amiga, whereas ESCOM will provide Commodore PCs.

One month later, we will start producing the high-end multimedia Amiga 4000 T. To succeed in keeping that tight schedule, we negotiated with well known producers in Europe and Asia. For the selection of the manufacturing partner, we will be emphasising the quality requirements.

Until the end of the year, we plan to produce enough machines to meet the demand. These machines are already outsold in preorders. In October, the production of the low-end A1200 will begin. We expect to ship enough units as well as CD³² game consoles to meet the Christmas season demand. Please give us more time to publish quantities.

The takeover of the inventory, which is mainly composed of spare parts, in the UK and Germany is completed. The rumoured stocks of new Amigas ready to be sold do not exist. For inventory in the Phillipines, we are currently negotiating with the local trustees.

Ladies and gentlemen, the new Amiga Technology will now become the operating center of an international company held 100% by ESCOM AG. Our headquarters in Bensheim will employ around 50 people for following tasks: development, support to developers, resellers, and users, production management, marketing, PR and administration.

We also took over the former Commodore development center in Norristown, with its research and development facilities. Eduard Goff, former Vice President and General Counsel at Commodore now leads that center. He will talk to you later. Our developers are now working on the next generation RISC based Amigas as well as on improving current models. Here, we are working in a tight partnership with SCALA and MOTOROLA.

Amiga Technologies GmbH expects a turnover of 100 Mio DM in 1995, mainly from the Christmas business with Amiga 1200, 4000 and CD³². Our monthly expenses are evaluated at around 600 000 DM. The break even point should be reached this year. We are confident that we will have rentabilized our 10 Mio \$ investment by spring 1996 with Amiga sales and licences.

I will be here again for further questions later this afternoon, but now let me introduce M Manfred Schmitt, Chairman of the executive board at ESCOM.

Plans for the Future of Amiga

Manfred Schmitt

Chairman of the Executive Board, Escom AG

Ladies and gentlemen,

Since we won the auction for the intellectual property of Commodore and Amiga, the ESCOM AG is flooded with congratulation messages. Amiga clubs and Amiga users write to ask us to revive and continue to develop and improve the Amiga. Many of them actually sent us their wishes for future hardware architectures and operating systems improvements.

However, it is still unclear for many users how a PC manufacturer and retailer will use the Amiga technology.

Here is our answer: ESCOM now turns from a PC manufacturer and retailer into a multimedia company. The big multimedia applications will come very soon as Pay-TV, Video on demand, homebanking, home-shopping and online services. In this growing market, we want to become a leading provider of hardware, software and solutions. Our goal is to give the user a cost-efficient way to access all these new services the multimedia world will allow. The Amiga technology brings us all we need here in an elegant way. We see in the Amiga the key to Multimedia technologies for the future.

As an intelligent terminal, you all know the PC. Many people use the PC in conjunction with a modem to access online services and the worldwide Internet. Escom is providing that market with a wide palette of advantageously priced multimedia PCs in a range between 2000 and 3000 DM.

But there are other user profiles, who want to use the multimedia technology without having to spend several thousands of DM. For these users, the Amiga represents a very interesting alternative. It stands out with an amazing price/quality ratio. Also remarkable is the operating system with a still unmatched multitasking ability. That means that several applications can run simultaneously, depending on available memory without slowing down the whole system. This is achieved by the smart resource sharing of the system and the low consumption of RAM and processing power by the applications.

The Amiga operating system needs 8 times less memory than Windows, and it multitasks better than Windows. Through this smart use of system resources, the Amiga is still a very efficient and inexpensive computer.

Video is another strength of the Amiga. In this aspect, the Amiga is superior to the PC. The video output of the Amiga is already PAL and NTSC compatible, so it can just be plugged into a TV or any video monitor. A PC needs a converter

to do this. The Amiga represents a possibility to give people access to interactive television, online services and pay TV with set top boxes at decent prices like 400 DM. The market is huge because there are much more televisions than computers in the homes.

The set top box is a concrete application involving Amiga technology that we want to improve. For the American market, which is much more advanced than Europe in this regard, we already have license agreements with our partner VisCorp—our first licence, by the way.

We are willing to be very flexible and open-minded regarding licensing of our technology. Amiga developers and manufacturers shall have the chance to talk with us to define partnerships or license agreements. Together, we will develop a wide range of Amiga hardware and software. Our goal is a productive, open Amiga technology. The example of Viscorp demonstrates it best: we license Amiga technology to people who want to integrate it in their own products. The press already talked about another partner, the Tianjin Family-Used Multimedia Co. Ltd. They will build the lower range of Amiga computers and revive the legendary Commodore 64 for the chinese market.

Ladies and gentlemen, we have mainly talked about the Amiga. In New York, we also took over another well known brand: Commodore. All of you surely remember the good old Commodore 64 and its tremendous success in the early eighties. It is still a famous episode in the home computer history that could be compared to the Volkswagen Beetle. A recent study made by the german economic magazine DM reveals that the name Commodore still has very high recognition. 93% of all PC users know the trademark Commodore. Such a reputation is surpassed only by IBM.

We will now separate Commodore and Amiga operations. Amiga will be the multimedia range with Motorola processors and Commodore for Intel based Personal Computers. We want to use all available and appropriate distribution channels both for Commodore and Amiga: specialised retail stores, warehouses, and mail order services. The ESCOM subsidiaries are only one of many possibilities.

Ladies and gentlemen, we are convinced that ESCOM, Commodore and Amiga will become a success story. Look at the structure and competencies we have built up in a short time.

Thank you.

Amiga Product Development Plans

Dr Peter Kittel

Head of Product Planning Group, Amiga Technologies GmbH

Ladies and gentlemen,

As Head of the Product Planning Group of the new Amiga Technologies GmbH I would like to give you an overview about the past and the technical future in our view.

The company Commodore started in 1958 as a typewriter repair company followed by production of electric typewriters, digital watches, calculators and video games. In 1977, there was launched one of the first real desktop computers, the legendary PET 2001. It was followed by the CBM series, where the CBM 8032 dominated the german bureau market in 1980 and the following years. just before the breakthrough of the IBM PC. The PET 8000 series had a reputation of being especially easy to use and to program and being robust, a similar reputation like the Volkswagen beetle.

Simultaneously Commodore started the Home Computer market in 1981 with the VIC 20, soon followed by the C64. The C64 became the top selling computer ever; its success and sold number is again only comparable to the Volkswagen beetle. In this way Commodore had generated two different markets which complemented each other nicely.

The year 1985 brought great news. In spring Commodore introduced the IBM-compatible PC 10, and in July in New York during a gala show, the Amiga.

The PC 10 succeeded to carry on the advantages of the 8000 series and at least in Europe to increase the professional reputation.

The Amiga was far ahead its time with its graphics and sound capabilities and got a euphoric reception by the computer press. From its first days, software and hardware vendors exploited the special capabilities of the Amiga to display graphics and animated graphics, all accompanied by synchronised sound. Only later was the term 'Multimedia' was invented for this; the Amiga did it from day one.

The special capabilities of the Amiga are due to two aspects, its special hardware—the custom chips with the familiar names Paula, Agnus, and Denise—and on the other hand its Operating System. Looking back, one can only admire how well suited for the future this unique operating system was designed in the early 80's. As a result it offers still unmatched multitasking ability. The Amiga reacts immediately on every user input and wastes no time for administrative tasks.

Typically you can run several big applications in parallel, without noticing a slow down of any of them.

All this while the Amiga uses its resources like memory in RAM or on disk very efficiently, so that it appears always a bit faster through this aspect, and also doesn't stress the wallet of its owner in regards of big RAM or hard disks. A further feature of the Amiga is its video compatibility by using scan frequencies typical for video, as well as its ability to get genlocked. Every Amiga from the low-end to high-end provides this feature. Many video and TV studios use the Amiga as an integral part of their equipment.

To show more concretely where the Amiga comes from, here is a picture of the genius behind the Amiga custom chips, Jay Miner, who passed away last year.

The breakthrough for the Amiga came in 1987, when the first Amiga 1000 was followed by two successors, the Amiga 500 as a dedicated home computer and the Amiga 2000 as a professional workplace computer. The A500 became immediately the star of the home computer scene and dominated it for several years, so that Commodore nearly gained a monopoly in this low-cost market. On the other end, the A2000 featured the Open System Architecture, so that add-on vendors could offer everything from an external video digitizer to a turbo board with a bigger processor. One other unique Amiga feature helped here, which is called *Autoconfig*: You can just plug in cards and don't need to bother with DIP switches or jumpers, a feature that's only now slowly emerging as *Plug&Play* also on PCs.

The year 1994 brought the breakdown of Commodore, after the financial reserves had been exhausted by some fatal management decisions. The liquidators tried to sell the company, but only in spring 1995, on the auction of April 20th and 21st in New York, the german company Escom won and took over Commodore completely.

Under the wing of Escom AG, Amiga Technologies GmbH will concentrate exclusively on the Amiga, to restart its production and develop it further.

The current Amiga generation offers a full palette from the absolute low-end—the Multimedia Game Console CD³²—over the full-featured home computer A1200 up to the high-end with the A4000 Tower. Concurrent platforms try to state it as normal that you get a trade-off between enhanced features and speed. But the Amiga shows that this need not be the case for a really modern operating system. The professionalism of the Amiga's video features shows up frequently in the recent past, in that several TV series in USA are now produced completely on Amigas for their video effect parts. Two examples are *SeaQuest DSV* and *Babylon 5*.

After the takeover the new company is conscious of the necessity to further

develop the Amiga platform, as the competition has not stood still. The new Amiga company will therefore install an engineering division that can make the transition into a new generation happen. In the mid term future this will lead to stronger processors and otherwise enhanced versions of the current models.

The big perspective for the future consists in a port of the Amiga architecture to a RISC platform, to assure the awaited power for the future. The very first task of this new engineering division will be to prepare this decision. Which of the concurring RISC platforms will be the optimum for the special case of the Amiga, is no trivial decision. On one side it is a goal to bring the Amiga nearer to the 'mainstream', so that it becomes easier to port and run existing application programs. On the other hand, the future computer should always remain recognisable as an 'Amiga' that is not assimilated among an amorphous mass of similar computers. The Amiga once started with far superior graphics and sound capabilities, and should by all means regain this advantage.

To fulfill both requirements, there are currently two alternatives, the PowerPC and the HP PA RISC. Both have advantages and disadvantages, and they will get thoroughly judged.

Concurrent with this, the operating system will have to get adapted to this new hardware platform, and adapt to new requirements like 3D graphics, texture mapping, Object Oriented design and other current technologies. This task will be not be as difficult as some might suspect, as we can build on a basis which was always designed with progress in mind. Let's look forward to a great future of the Amiga architecture!

Introducing Dr Peter Kittel

As mentioned elsewhere, Dr Peter Kittel is the new director in charge of Amiga Product Planning. However, he is no newcomer to Commodore and the Amiga, as this brief autobiographical introduction explains.

Dear Amiga community,

Following some friendly request, I try to introduce myself and show some of my background. Most people already will know much about me from my years of Usenet participation, but here comes a summary.

I was born in 1951. I grew up, went to school and university in northern Germany. The university was Technische Universitaet Braunschweig, and I studied Physics starting in 1969 and finishing my doctorate in late 1983. My thesis was in solid state physics, optical properties of silver, investigation of reflection spectrum in high magnetical fields under polarization modulation and at Helium temperatures.

Already as a schoolboy I got into contact with electronics, tinkering with simple detector radios and later transistor amplifiers. Computers were no issue in these 60's. Electronics became more professional at university where I did many parts of my experiments myself with the soldering iron.

Ca. midway during study I first encountered computers, at first in 1970 on a Philips Electrologica X1, a "small" computer (needed only two rooms) with ca. 7 KB of storage and an Algol 60 compiler as standard environment. Later I changed to the uni's ICL mainframe, also under Algol 60. Other programming languages I learnt were Fortran IV, Dartmoor Basic, and PL/I.

In 1978 I had my first encounter with the Commodore PET 2001, and it was love at first sight. On the 8K version I did my own text system, which grew by time, and which I still sometimes use for special purposes, ported to the PC as well as the Amiga (in Basic). For the PET I also built interfaces, e.g. one to use an analogue X-Y-recorder as a digital plotter via D/A converters interfaced to the User Port of the PET, or another one to use a teletype as a printer, as needle printers were too expensive in those days.

In 1982 I bought my own PET, a CBM 4032 plus floppy CBM 4040. The 4032 was the 'fat' version, so I immediately upgraded it to 80 columns, or a CBM 8032. On this, I did my own text processing for my thesis, the printer was a ball typewriter, the interface again self-made to the User Port. As the typewriter was an electrical one, not electronic, the interface included one solenoid per typewriter key to press it down mechanically. It was very loud and not very reliable, but it allowed changing the print ball for mathematical symbols or normal letters. My text system of course supported this change in a very sophisticated way.

With this 1 MHz computer I did also all the numbercrunching for my experiments, as our uni computer centre in those years was barely useable, with days of waiting for a single job get done. I wrote a little compiler to get a programming language similar to those of contemporary hand-held programmable calculators like the HP 25, and got involved deeply with floating point numerics, as I had to write my own square root routine, because this was the routine my calculations spent 80% of their time in.

Commodore: First contact

In these uni years I got into first contacts with Commodore, which at that time had a new manufacturing facility including an engineering department in Braunschweig.

When I was ready with my doctorate, I tried to get a job in Commodore engineering in their Braunschweig facility, but a colleague from the neighbour institute was some days faster. But they said they needed people in the Frankfurt german headquarter of Commodore, so I got there. In February 1984 I started in Frankfurt as member of the Support department, responsible for peripherals support, that was at that time external floppies and harddrives (3 Megabytes!), printers, plotters, graphics tablets, graphics cards for the CBMs, etc.

Commodore Support at that time was divided in two sections: *PC* and *Systems*. Yes, 'PC' was for the home computers VC-20 and C64! And 'Systems' was for those Big PETs, or CBMs. I always was in the Systems part of Support. Later, in 1985, I was for a short time leader of the PC-compatible part of Support, as Commodore Braunschweig had developed nice compatible computers, which immediately got big market share in Germany, directly rivaling with IBM for place one for the coming years. But shortly later my talent for writing and German orthography became obvious and my main responsibility changed to documentation, i.e. german user manuals, for all computers we shipped.

In mid 1985 we saw the first videos of the Amiga. It was so astounding! In March 1986 it was introduced officially in Germany. We tried to copy the marvellous show at Lincoln Center, NYC, of July 1985, in our Old Opera in Frankfurt, but did not really get it as nicely.

Soon I began programming on it, mostly in AmigaBasic, but later also in C when it had to be faster or get distributed to others. The following years were filled with many Amiga and some PC manuals, many fairs like the yearly CeBIT in Hannover and other big fairs in Germany, many support calls from end users or companies, much support for other departments at Commodore, e.g. Legals in cases of Copyright infringements by cloning the 1541 OS, etc.

In the late 80's I began to use data communications to look into BBSes and Usenet from the company. When I got access to the *comp.sys.amiga* newsgroups, I knew that was for me. I read them eagerly each day as the first each morning.

looking for nice info from our US people or interesting announcements of 3rd parties. What was not so nice were Amiga bashings by several people, PC or Mac advocats, where I stepped in and defended the Amiga against false accusations and other bashings. This way I met a lot of interesting people from all over the world, most of them very nice and some rather annoying.

Commodore Germany: The final days

In the last years, beginning in 1993, the decline of Commodore began with permanent layoffs. So eventually our developer support colleague was gone and I had to take over. And in spring 1994, before we had our last, very successful CeBIT show, the last colleagues of Support left, including the boss, so I remained as the last supporter in Germany, being my own boss.

In September 1994, the german company had to file for Konkurs (liquidation), and a Konkursverwalter (liquidator) became the new boss. He laid us all off, but due to german laws and my long employment at Commodore, this got only valid at end of January 1995 for me. The last months were depressing, they consisted of cleaning up, throwing away much which was connected with so many memories, and preserving some data and papers that could become valid for a potential new start.

In February 1995, I got unemployed and connected my Amiga which I had bought from Commodore to the net from my home, where I eagerly watched all news about the buyout of Commodore. My problem was that my news connection was rather weak, several postings were already two weeks old until they finally made it to my site.

But then I read about the auction at 20th and 21st of April. And voila, on Saturday morning, the 22nd, I found in my email the Auction Report by Amiga Report, and it clearly said that Escom, a company not far from Frankfurt, had won. I instantly typed my resume and on Monday morning drove to Heppenheim and handed it in. Several days later they called back and shortly after that hired me.

ShapeShifter

by Colin Dalton

LONG did I cast envious glances at Emplant-owning friends. They had the option of running not only Amiga software, but the wealth of productivity applications available on the Mac. Now don't get me wrong, I think the Macintosh's operating system, while very pretty, can't multitask to save its life. There are so many annoying aspects to it (not being able to do anything else while a file requester is open is the one that galls me most), yet it does have productivity applications, such as *PhotoShop* and *XPress*, that just aren't available on the Amiga.

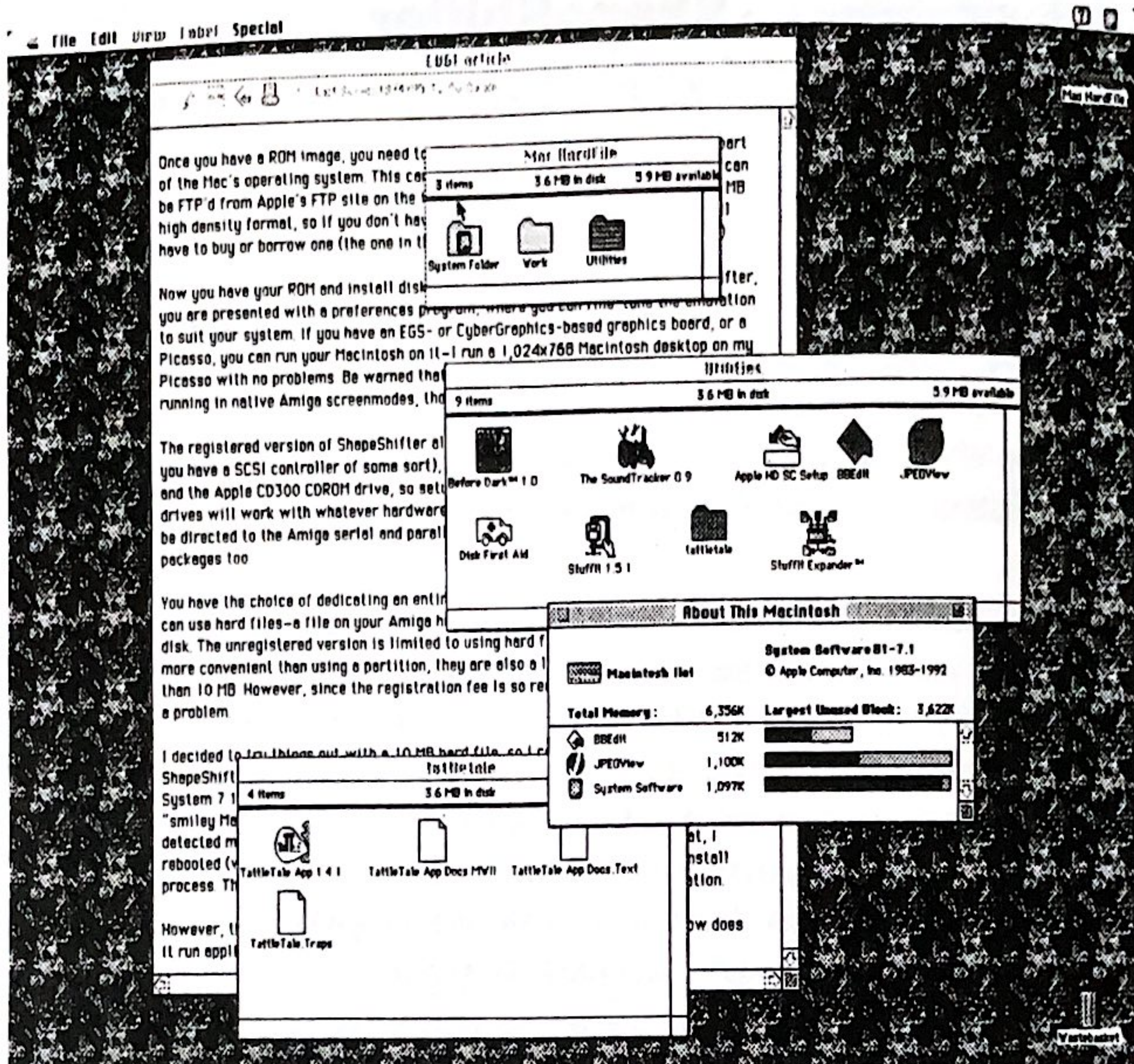
With Emplant costing over £200, and real Macs more than three times that, it seemed that I would remain Mac-less, at least for the foreseeable future. Then along came ShapeShifter, the all-software Macintosh emulator for the Amiga (not a morphing package, as most people seem to infer from the name!). Even better, it's shareware, with a registration fee of only DM50 (that's about £23 at current exchange rates). It claimed to run practically all Macintosh applications on any Amiga with at least a 68020 with 4 MB RAM and AmigaOS 2.1 or greater. Surely this was too good to be true? There had to be a catch.

Well, there is, sort of. For a start, you need to get an Apple ROM image on disk. This can be done with a program supplied in the ShapeShifter archive, but first you have to have access to a suitable Mac (the ROMs of AV and Power Macintoshes aren't suitable) with PC Exchange, or some other MS-DOS reading software installed. The legalities of doing this are, at best, hazy, and you can't use the Macintosh while using ShapeShifter without breaking copyright law.

Once you have a ROM image, you need to get a hold of System 7.x, the disk-based part of the Mac's operating system. This can be bought from Apple, or the disk images can be FTP'd from Apple's FTP site on the Internet. These require a 1.4 Mb high density floppy drive, so if you don't have a high density drive on your Amiga, you'll have to buy or borrow one (the one in the A3000 and A4000 should work on other Amigas too).

Now you have your ROM and install disks, you are ready to go. Loading up ShapeShifter, you are presented with a preferences program, where you can fine-tune the emulation to suit your system. If you have a Picasso or an EGS or CyberGraphics-based graphics board, you can run your Macintosh on it—I run a 1024×768 Macintosh desktop on my Picasso with no problems. Be warned that people on the internet have had problems running in native Amiga screenmodes, though two colour mode seems to work.

The registered version of ShapeShifter allows you to use Mac SCSI devices



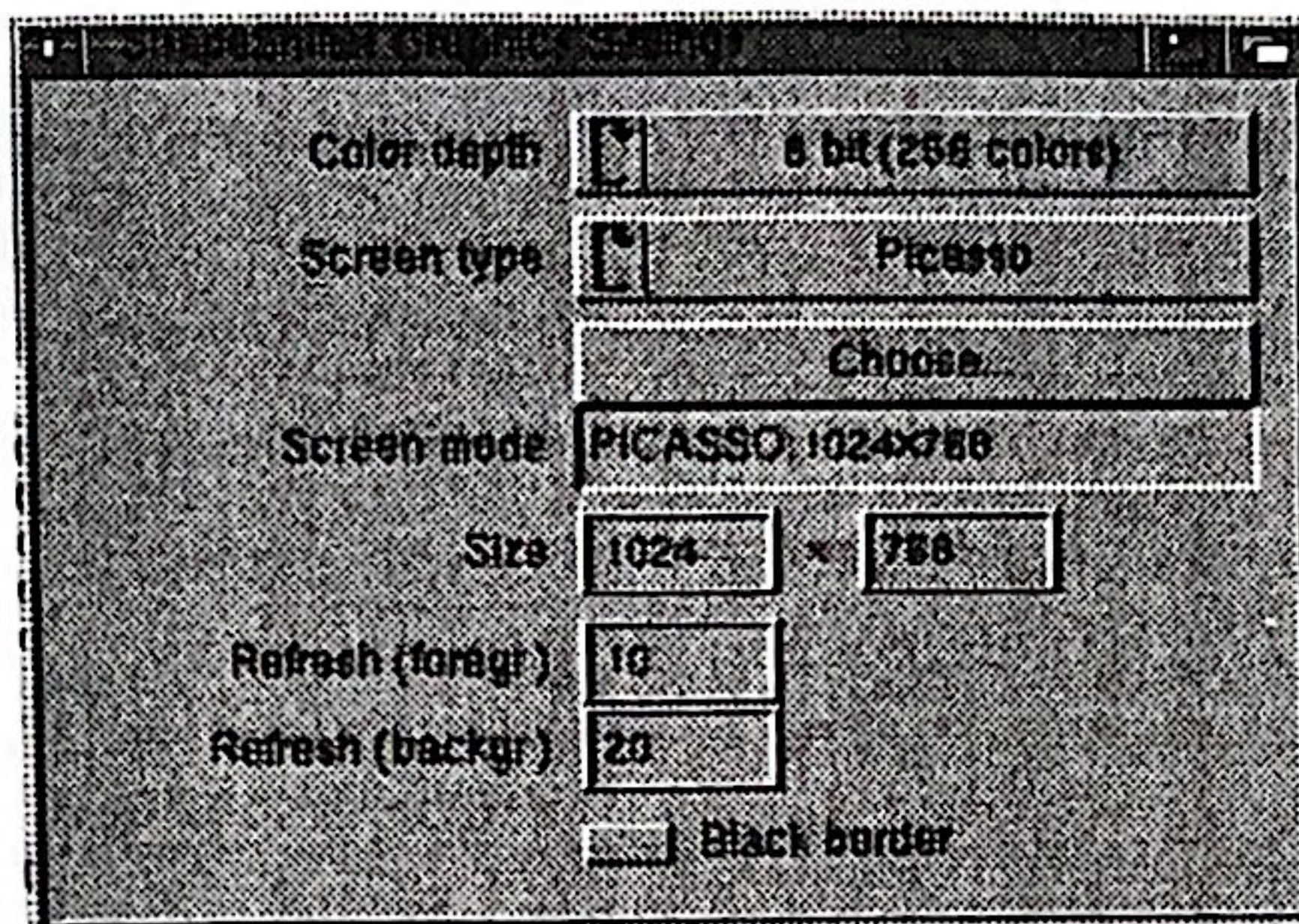
A perfectly normal Macintosh screen ... except it's on an Amiga!

OEM hard disks and the Apple CD300 CDROM drive, so setup software and drivers designed for these drives will work with whatever hardware you have installed. The Mac serial ports can be directed to the Amiga serial and parallel ports, so you can print and use Mac terminal packages too.

You have the choice of dedicating an entire partition (or two) to the Macintosh. You can use a Macintosh-formatted hard disk connected to your SCSI controller, or you can use hard files—a file on your Amiga hard disk that the Macintosh uses as a hard disk. The unregistered version is limited to using hard files, which although they are more convenient than using a partition, they are also a lot slower, especially if bigger than 10 Mb. However, since the registration fee is so reasonable, this isn't really a problem.

ShapeShifter in Action

I decided to try things out with a 10 Mb hard file, so I copied over the ROM, and set up ShapeShifter to run on my system. After inserting the Disk Tools disk from the System 7.1 install series, I clicked on start, and after a small delay, the familiar 'smiley Macintosh' came up as the system booted off the floppy. The system duly



If you have a graphics card, chances are ShapeShifter supports it.

'smiley Macintosh' came up as the system booted off the floppy. The system duly detected my hard file, and asked me if I wanted to format it. After the format, I rebooted (well, the system crashed, but no harm was done) and started the install process. This went flawlessly, and I now had a fully functioning Mac installation.

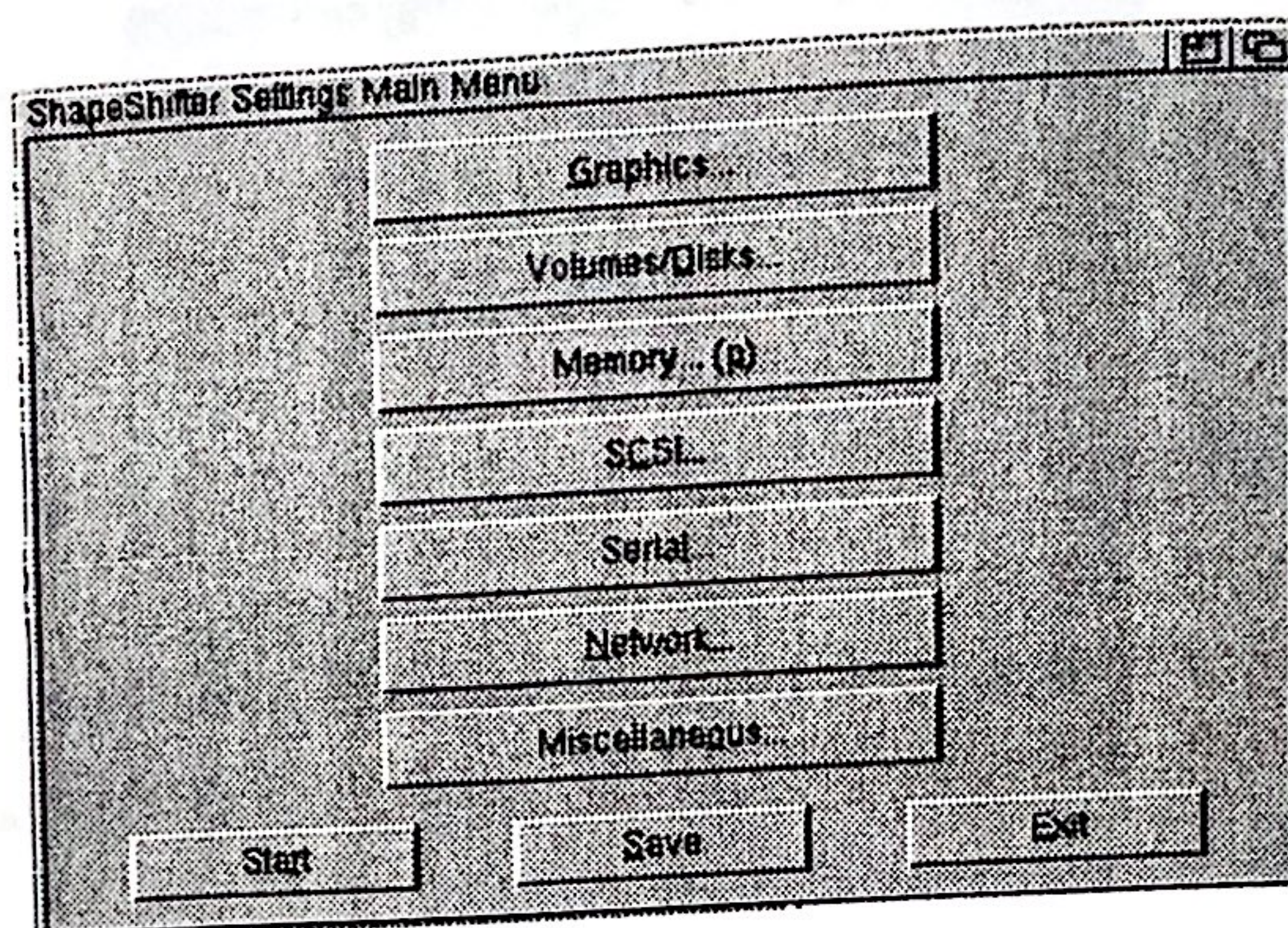
There is only so much you can do with a basic OS installation, so how well does it run application software and utilities? Well, to find out, I resolved to copy some of the freely-distributable programs from my college's Mac network. I thought that this would be a problem, since I had by now returned the high density disk drive to its owner, and for double-density disks, Macintoshes use a variable speed format that the Amiga can't read.

However, with ShapeShifter, this isn't a problem. ShapeShifter formats double-density disks using a format that both it and real Macintoshes can read. While the emulation is running, you can mount your Macintosh drives so that they are accessible from the Amiga side.

I am pleased to report that so far, ShapeShifter has run everything I have thrown at it. It will even run Microsoft Word 6 (albeit slowly, as every time you do something in Word, it seems to require a disk access, and remember—hard files are slow). Even system-probing utilities such as TattleTale run fine. A particularly nice feature is that you can exchange data using the clipboard—select an area of text on the Mac side, select *Copy*, swap screens, and now you can paste it into any Amiga application that supports the clipboard.

Your emulated Macintosh is not mute either, as ShapeShifter will use the Amiga's native sound capabilities for output. However, many games will not work, as they hit the hardware directly. The documentation states that if you have a sampler, the Macintosh will use this for input, but I have been unable to test this.

So, no longer do I cast envious glances at Emplant owners. With the combi-



ShapeShifter allows control over a wide range of settings.

to NetBSD, I can run practically every new piece of software released, all from one box, and without having to sacrifice my Amiga. If you want to run Macintosh programs, or just want to wind up Mac-owning friends grab a copy of ShapeShifter from Aminet—you'll find it in the `misc/emu` directory.

For Sale

Amiga 1200 complete with games, applications, manuals, mouse & mat, two joysticks. Mint condition. £380. Phone Keith on 496 2569.

Citizen 120D+ Mint condition. Hardly used. Comes complete with paper and ribbon. £125. Phone Keith on 496 2569.

A2000+A2630, 9Mb RAM, 40Mb SCSI Hard Disk, 1084 Monitor. £550. Phone Bob Jackson on 840 9120.

Grapevine

by David FitzGerald

IN ST ANDREW'S College we have a magazine called *The Grapevine*. It's a simple enough affair—A4, 2 colours, 16 pages—so it can't be hard to produce. . . can it? Well, if I was doing it all myself, probably not. But making a semi-professional magazine takes up quite a bit of time, time I don't have. So the work is split up, mostly between myself and Ben Lewis. It's then that the problems start, and start they do! Personally, I like to use *Pagestream 2.2* to lay out the magazine. Ben prefers *ProPage*, and the occasional other helper uses *PagePlus* on the PC.

In my opinion, this is a bad idea. Having two editors is okay, but three or more create problems. For instance, let's say I am assigned page 2, and Ben page 3. What happens if Ben is finished page 3, but my page 2 can't fit all the required information? I either decide what to cut out, which is a shame, or I discuss the problem with Ben the next day—maybe there is something on page 3 which is not too important, but unfortunately, this is unlikely. So, someone is disappointed to find their article got the chop, and we lose a day's work.

Speaking of articles, what happens when you hear the all too familiar tale of, "Oh! I forgot about that article I was supposed to write for you, David. I'll have it tomorrow!" Unfortunately, tomorrow turns into next week, and my page 2 is empty, while Ben's page 3 is crammed. I can't take on his excess material because I don't know how long the article I am due to receive is; invariably, it's the wrong length!

Printer's Panic

But now to the real problem. Using different programs for different pages should be no problem, but this turned out not to be the case. When each page was printed on the BubbleJet in school, they all looked very similar, similar enough not to stand out from each other. Great! All the typos were corrected, and it was time to send the disks off to the printer.

The next day, the co-ordinator of the magazine told me that Brunswick Press had had a problem with some of the PostScript files—my PostScript files. Everything seemed to be in order. Then it hit us: I had saved my 8 pages as one big PostScript file. I didn't know that this was incorrect (each page should be saved separately). So, back went the now-corrected files.

Still, they had problems with them. Apparently, some of the pages printed fine on their laser printer, while their ImageSetter really made a mess of them. We tried and tried to rectify the problem, but we couldn't. *PageStream* had been used for the magazine once before, so we knew there must be a way to make it work. We put it down to a bug in *PageStream*, for want of evidence to the contrary. If anyone

has any suggestions (besides buying *PageStream 3*, which we are in the process of doing!) then please e-mail me on CUGI BBS.

Christmas is coming...

The issue had to be out before Christmas, and the printers require the files three weeks prior to publishing. We only had two weeks left until Christmas. A decision had to be made fast. One option was to re-layout the pages in ProPage, which I was opposed to—I didn't want my recent 3am bedtimes to have been for nothing. The other option was suggested by Brunswick Press. It went like this:

- 1) Remove all shading from boxes etc...
- 2) Print two high quality copies of the pages on out BubbleJet
- 3) On one copy, fill in with pen where shading should be applied.
- 4) Hand over prints to Brunswick Press. They would then photograph (I presume he meant scan) the clean copy, and insert the shading where necessary. From there they would have no problem printing out copies of their completed file.

We decided to go with this option. It worked quite well actually, although I was quite sceptical at first. We lost some quality due to the fact that it was printed on a BubbleJet, but you wouldn't notice unless you were looking for it.

We made the deadline by the skin of our teeth. Also, we got the chance to visit Brunswick Press in Sandymount and see how our magazine was printed. I also got a chance to meet the man who is in charge of the production of the Grapevine once it arrives there. Needless to say, he wasn't too pleased with me! (Actually, he was quite nice about it.)

So, it turns out that there is no particular magic involved in producing a magazine ... just a lot of hard work and headaches. Incidentally, this article was in *very* early; I know how it feels to have no articles for a long time, and then have a huge surge at the end. Unfortunately, we can't postpone our issue until the next school term! [*Okay, okay, no need to rub it in!—Shamefaced Ed*]

The Integrated Services Digital Network

by Karl Jeacle

INFORMATION Super Highway, eh? Seems more like a Super Footpath if you ask me. All this hype can get pretty tiresome after a while—especially if all you've got is a regular 14.4K modem. Perhaps now that Euro-ISDN has been standardised across Europe, it's time to give ISDN a look.

Introduction

The Integrated Services Digital Network (ISDN) is a set of international standards for connecting voice, data, and video equipment. With ISDN, a user can make a voice call while simultaneously viewing video images or retrieving information from a computer. All these different forms of information can travel on a single ISDN circuit and be directed to an integrated voice/image/data terminal.

In 1976 the term *ISDN* appeared in the CCITT's (now ITU-T's) *Orange Book* list of terms. It's taken so long for ISDN to arrive that people have referred to it as "I Still Don't Need it" or "It Still Does Nothing". In recent years, the ISDN roll-out has finally happened, and it is now available in most parts of Europe.

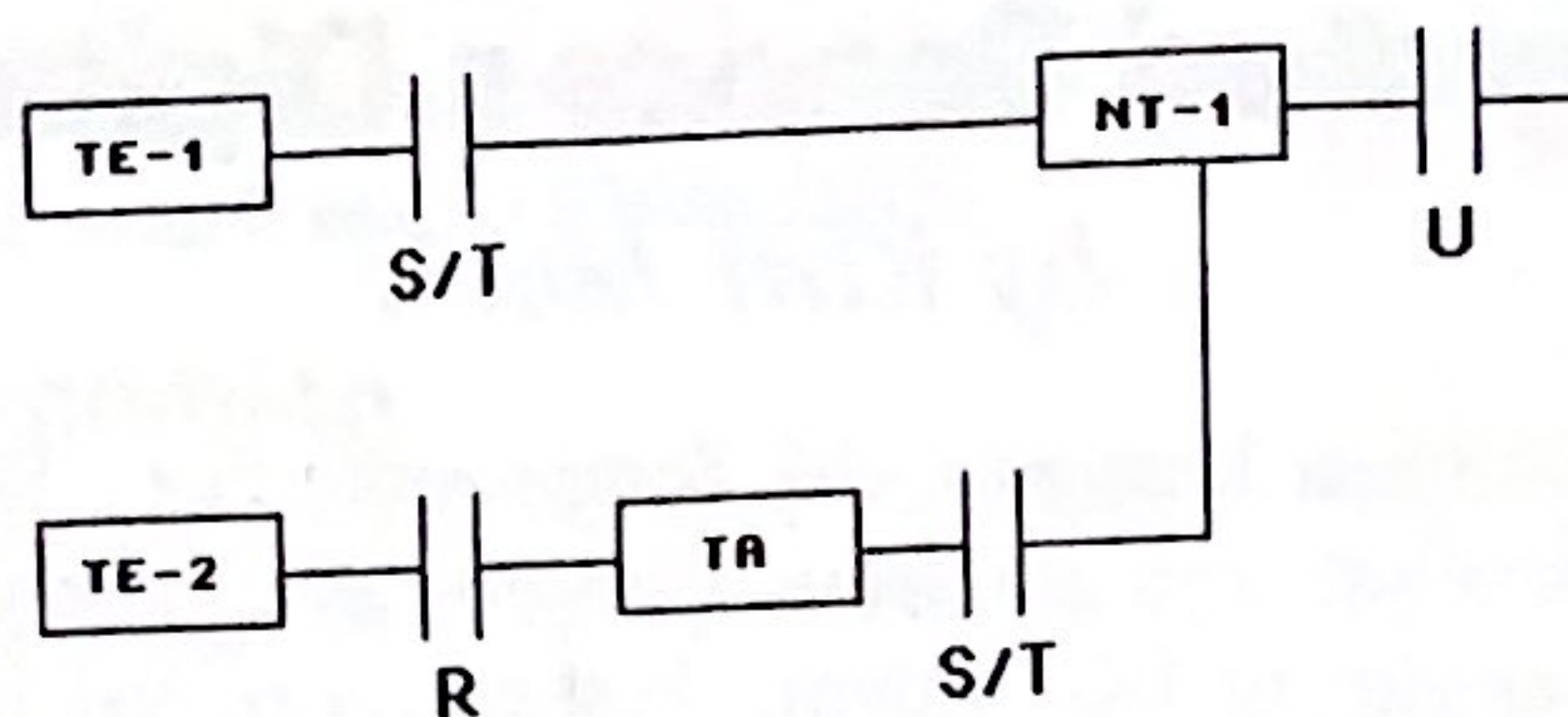
ISDN comes in two flavours: BRI and PRI. The Basic Rate Interface (BRI) specifies a single access point into ISDN. Known as 2B+D, BRI consists of two bearer channels and one data/delta channel. Each bearer channel operates at 64Kbps and is a clear channel, meaning that there is no restriction on the format or type of information that passes through them. The data channel operates at 16Kbps and is used for signalling and control information. The Primary Rate Interface (PRI) is usually used to support multiple users. A common application would be to connect a PBX, LAN, or other multiuser switching device to an ISDN network.

As with all standards, the great thing about ISDN standards is that there are so many of them to choose from. Well, a few anyway. The European standard for PRI consists of 30 B channels of 64Kbps each and one D channel of 64Kbps. The aggregate capacity is 2.048Mbps or the equivalent bandwidth of an E1 line. The North American standard, on the other hand, consists of 23 B channels and 1 D channel giving an aggregate capacity of 1.544Mbps, the same as a T1 line.

Note that 64K in the telecoms world means 64,000bps, not the more familiar 65,536bps figure that a computer user might expect.

ISDN in theory

Figures 1 and 2 illustrate how interfaces link different types of equipment to an ISDN network. Figure 1 shows the more complex scenario which might be typical in a business environment, while Figure 2 illustrates a somewhat simpler configuration, more typical of a residential installation.



A typical business ISDN installation might look like this

An 'R' interface links non-ISDN compatible equipment and terminal adapter equipment. The 'S' interface links ISDN compatible equipment and network terminal equipment. A 'T' interface links customer premises equipment to an ISDN network while the 'U' interface ties together network termination equipment or line termination equipment.

Network termination equipment can take two different forms under ISDN. NT1 describes public switched network demarcation devices such as a termination block or registered jack. This equipment will have some form of built-in intelligence under ISDN because of the functions it must perform. NT2 is the designation for customer-owned switching equipment such as a PBX, LAN or other multi-user device. NT2 equipment can provide additional capabilities beyond NT1 such as call switching or concentration.

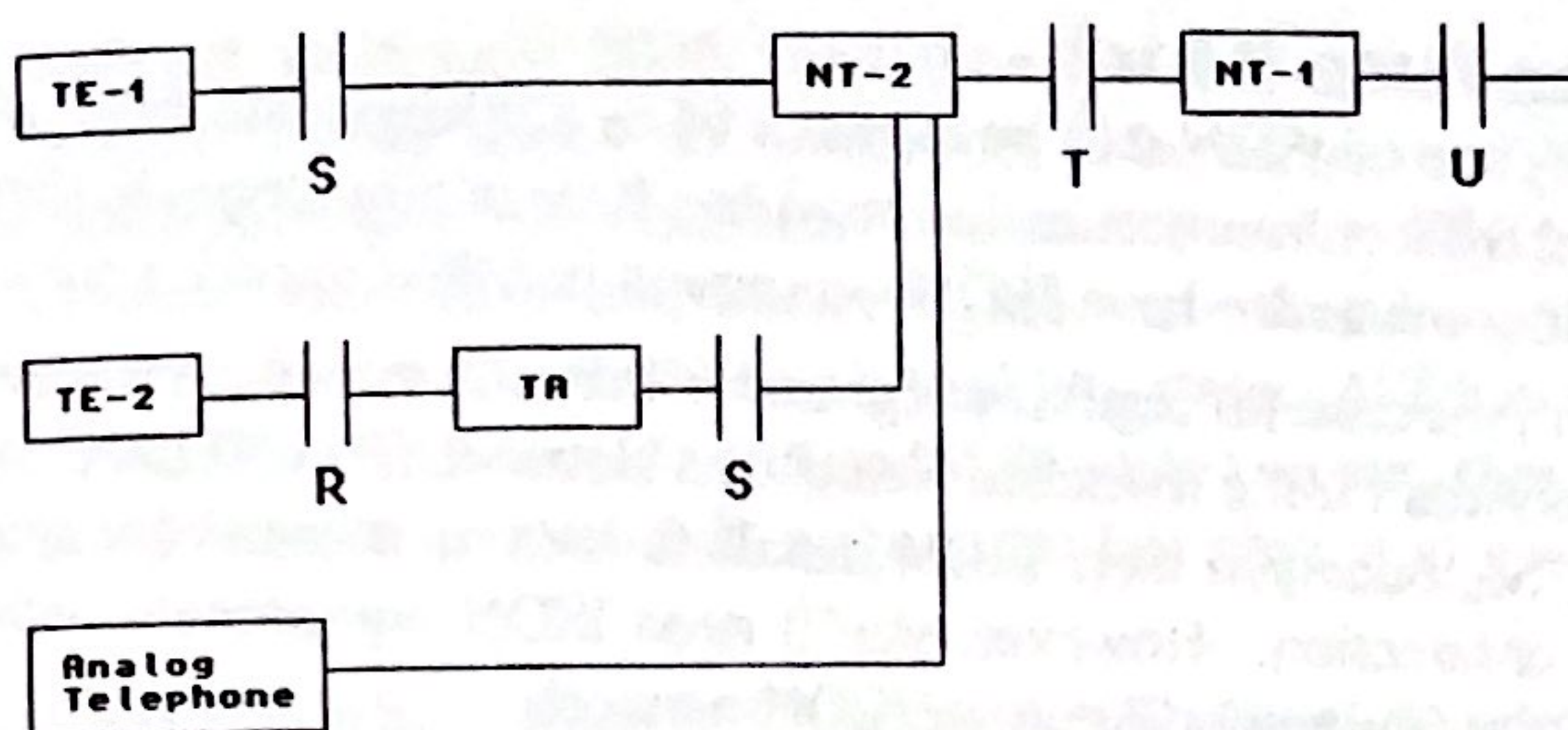
TE-1 equipment is ISDN compatible and can be connected directly to the network. TE-2 equipment is not ISDN compatible and requires an interface device known as a Terminal Adapter (TA). A TA can convert signals from one standard such as RS-232 to the ISDN standard.

ISDN requires a great deal of intelligence from the public switched network in order to format and transmit signals successfully. Signalling System 7 (SS7) is the series of recommendations from the ITU-T that define the content and format of signalling messages under ISDN, as well as the network design parameters necessary for transferring network control information.

SS7 is used by EuroISDN for inter-exchange signalling, while EDSS1 (Euro Digital Subscriber Signalling) is used for subscriber to network signalling (i.e. from your ISDN equipment to the exchange). Both SS7 and EDSS1 use part of the 16kbps D channel.

ISDN in practice

In theory, ISDN can be a little tricky to figure out, but in practice, it's quite simple. A Basic Rate Interface connection consists of a pair of copper wires running from a local ISDN-capable exchange into a small wall-mounted box in your house called an NT1. The 'U' interface is between the NT1 and the exchange.



This is one possible residential ISDN configuration.

The NT1 usually requires an external power supply, so it needs to be installed near an AC power socket. In Europe, the NT1 is generally supplied (and owned) by the local Telco, but in the USA, users must provide their own. On the user side of the NT1 is a single RJ-45 socket. This is your ISDN connection, or 'S/T' interface. This is a 4-wire interface, though in some cases may be 6 or 8.

Up to eight devices can be hooked up to this 'S/T bus'. The bus may be formed with splitters and T connectors; it is a true bus, not a star. The D channel is used to control the attachment of the one to eight devices to the two B channels. No two devices can attach to the same B channel at the same time.

ISDN uses a system called Multiple Subscriber Numbering (MSN) which allows you to allocate multiple E.164 addresses (telephone numbers) to your ISDN bus. For example, when you order your BRI connection, the Telco might provide you with two telephone numbers. If you only intend to use two 64K devices on your ISDN bus, then these two numbers might effectively map on to the two B channels and hence onto the two ISDN devices.

However, if you plan to use, say, four devices on your network, for example, a telephone, a fax machine, a computer and a videophone, then you're going to need more than two numbers. The Telco will rent you another two numbers, and you can now assign a unique number to each of your four devices. However, since you only have two B channels, only two devices can be active at the same time.

One case where you might have one device using both B channels is known as BONDING (Bandwidth ON Demand INTERoperability Group). This is a specification which allows different ISDN vendors' equipment to interoperate when combining multiple B channels to form one large pipe. For example, BONDING supports a single 384Kbps data stream over six 64Kbps channels.

What can I use it for?

The primary use of ISDN will be to make 64 or 128Kbps data calls. These could be to a local BBS or Internet service provider. Bear in mind though, that the person you're calling must also have ISDN equipment installed to take your call.

This isn't the case for regular telephone or fax calls though. You can call and be called by normal Public Switched Telephone Network (PSTN) telephones and fax machines. So, once you have ISDN installed, there is no need for a conventional telephone connection. However, you'll need ISDN equipment—you can't plug normal PSTN equipment into your ISDN network.

Most demonstrations of ISDN include some form of video conferencing. Most such systems make use of both B channels. For example, one channel could be used for a crystal-clear audio connection, and the other for a H.261 compressed video stream and application sharing. The ITU-T now has one standard which encompasses all video and audio (but not application sharing) standards pertaining to desktop video conferencing. It's called H.320, and any system complying with it will be able to interoperate with all other H.320 systems without problems.

Unfortunately, I don't know of any H.320 video conferencing systems available for the Amiga, so if conferencing is your reason for getting ISDN, you'll have to look to the PC or Macintosh.

Another application of ISDN is as a leased line backup service in the business world. This is particularly evident in France, where a large percentage of the installed ISDN lines sit idle most of the year, waiting for an outage to occur on a leased line so they can kick into action. Naturally enough, the Telcos aren't over the moon with this scenario. Next to no revenue is generated by all those ISDN connections not making any calls. The companies, on the other hand, have no complaints—before ISDN, if a leased line went down, time and money could be lost while the Telco were busy repairing the fault.

What do I need?

At the time of writing, only one ISDN card is available for the Amiga. This is the ISDNMaster by BSC buroautomation AG (Tel: +49 89 357 130-0, Fax: +49 89 357 130-99). It's a Zorro-II card for the Amiga 2000/3000/4000, and costs about DM900 (UK £365). Alan Berney has written a review for `comp.sys.amiga.reviews` which is available on Aminet as `docs/rview/ISDNMaster.txt`.

Unfortunately, Issue 54 of *Just Amiga Monthly* reports that BSC is leaving the Amiga market, and that most of their Amiga products will be continued on by AlfaData Technic Corp, although the status of the ISDNMaster is unclear. JAM suggests contacting Golden Image (UK) Ltd (+44 181 900 9291) who handle AlfaData products in the UK. Failing that, try AB-Union Electronic in Germany on +49 89 313 0938 (Tel/Fax).

If you can't get an internal ISDN card, then the next best thing is an ISDN Terminal Adapter. These boxes are sometimes referred to as ISDN Modems. While this description gets the right idea across, it is technically incorrect and should be avoided. ISDN is an end-to-end digital network and no modulation or demodulation onto analog signals takes place at any stage. A TA is essentially a box with an RS-232 port on one side and an ISDN socket on the other. They often even accept Hayes modem commands, so you can just plug in to your serial port and go.

A good example of a fully featured TA is the ZyXEL 2864I. This is a combined V.34 modem and ISDN TA. The V.34 side allows you to make 28.8 connections to other modems, while the TA side lets you make true ISDN calls. It can also send and receive faxes, and has built in voice capabilities allowing it to act as an answering machine. Truly an integrated solution! If you're serious about moving to ISDN and haven't bought a 28.8 modem yet, this might be for you.

Because ISDN calls can deliver a 128Kbps data stream, some TAs allow you to use your parallel port for connection. I presume custom software is provided that can handle this scenario. Otherwise, the TA's serial port will run up to either 115Kbps or 230Kbps. If either your computer or your TA limits you to a 115Kbps serial connection, then you will not be able to make full use of a 128K connection.

How much?

ISDN charges vary throughout Europe. The table below gives a rough idea of how costs vary from country to country. The prices listed are in UK pounds and are from July 1994.

<i>Country</i>	<i>Monthly rental fee</i>		<i>Ratio</i>	<i>Total</i>
	<i>PSTN</i>	<i>BRI</i>	<i>BRI/PSTN</i>	<i>B-Channels</i>
Denmark	10.20	15.70	1.5	11,400
France	4.60	24.30	5.2	856,000
Germany	10.20	26.60	2.6	1,527,500
Ireland	10.10	35.20	3.5	1,000
Italy	3.60	20.60	5.7	16,200
Netherlands	9.20	25.50	2.8	31,000
Spain	6.00	31.70	5.3	78,300
Sweden	14.80	25.90	1.8	13,000
UK (BT)	11.00	28.00	2.6	100,000

In Ireland, a BRI connection costs £420 and has a monthly rental fee of £35. Calls to and from normal PSTN phones are charged at PSTN rates, while ISDN calls are charged at 1.25 times PSTN rates per B channel on national calls, and 1.5 times PSTN rates on international calls. These prices are subject to VAT at 21%.

Where now?

Probably the best place to start looking for more information on ISDN is the Usenet newsgroup `comp.dcom.isdn`. The Frequently Asked Questions (FAQ) file from the group is also well worth a read. The FAQ is posted to the group biweekly. It is also available for anonymous FTP from `rtfm.mit.edu` as the file `/pub/usenet/news.answers/isdn-faq`.

If you have World Wide Web access, I recommend you check out Dan Kegel's ISDN Page at <http://alumni.caltech.edu/~dank/isdn/>. It has pointers to lots of ISDN related information on the Web, and links to ISDN equipment vendors.

Conclusion

Unfortunately, ISDN doesn't come cheap. You'll have to pay more for your ISDN connection, rental, and calls than you would with a normal telephone line. ISDN equipment is more expensive too. But what you're buying is speed, flexibility, and a piece of the future.

The speed advantages are obvious; 14.4K and 28.8K are no match for 64K (or even 128K, if you can BOND). As for the flexibility, at the very least, you don't have to worry about tying up the phone line. You can make a 64K data call on one channel, and still use the other for faxes or voice calls. As for the future—well, wouldn't it be nice to be one of the first kids on the block with ISDN?

Communications '95

by Gavin McConnon

RDS Simmonscourt saw the faithful congregate for the biggest communications show held in Ireland to date. The Pavillion had over 100 stands crammed into its floor space. Running from 4 to 6 April, the show got off to a flying start with queues building up prior to the doors opening on the first day.

Communications '95 was sponsored by Telecom Eireann and Irish Computer magazine. The aim of the show was to bring together the widest selection of communications products and services available in Ireland today.

As you would expect from a major sponsor, Telecom Eireann had the largest stand, each section of it crammed with selections from their product portfolio. Cellular, data, networking, ISDN, business switching systems and videoconferencing were all laid out for visitors to try, with resident experts on hand to advise and demonstrate.

It has to be said, the products attracting the most interest all had the word *Internet* in there somewhere. The well established Internet service providers, IEUnet, Ireland Online and Internet Eireann had their stands mobbed with potential subscribers.

Eirtrade promised to have a Internet service soon, servicing Irish businesses and Internet Service Providers with high speed Internet access. Sprint, MCI, PostGEM and others all had Internet services aimed at the high-end user.

Esat was happy to tell everyone that would listen that it was going to be the next big force in Irish communications. At the show, they launched their own Calling Card which allows Esat customers to have their calls billed to their account from any phone world-wide. Also on the stand was EasyFax, Esat's branding of a rather clever fax delivery service. Esat assured everyone they would always remain 20% under Telecom.

Eirpage was telling all who would listen of the success of its Minicall paging service, with over 22,000 enquiries and 6,000 sales. You purchase the numeric pager outright, and the running costs are paid by your callers when they call your 1550 number. Called CPP, for *Calling Party Pays*, it's a popular service in many countries, although it seems to be rather expensive in Ireland at 58p a minute offpeak. Eirpage say the average call costs 50p.

Overall, there was a great hype in ISDN and Video conferencing, and lots of stands had Internet connections. With Cornel pushing its 38.4k modems, more than half the speed of ISDN, Telecom Eireann's ISDN really needs to get cheaper, and although Telecom was offering £50 off installation, it's still too expensive for home users. Telecom also announced it was offering upgrade paths for users of analogue or 64Kbps private circuits, and with their all-new digital network, they said prices will keep falling.

Things are certainly changing fast, and getting cheaper, and with the numbers at the show well over what was expected, most exhibitors were very pleased. After three long days of walking and talking, I left with the impression that people are really excited about the future of Communications and that next year's show is going to be huge.

Piccolo SD64

by Gavin McConnon

WHILE at the World of Amiga show in London last November, I was looking out for a graphics card. I intended to get a Picasso II—it has a good reputation, and most software supports it—but when I passed the Blittersoft stand, I noticed something new.

They had an A4000 with a Piccolo SD64, and the graphics were unbelievably fast: screen updates in milliseconds, and you could drag full 24 bit pictures around the screen in just about the same time. I needed one, and luckily enough, they had one left. After parting with my £300 (Sterling) I was proud to say I had probably the fastest Amiga graphics card in Ireland (for a short time anyway!)

The Piccolo SD64 is an autosensing Zorro II/III card for the A2000, A3000 and A4000, utilizing the latest generation of video accelerator chip. It's described as a 64-bit system, not because of the number of colours it can display, but because of the way the graphics chip works internally. As a result of the extra-clever technical bits inside the chip, and when used with a Zorro III system, this card gives the fastest possible screen updates and blitter-assistant image moving.

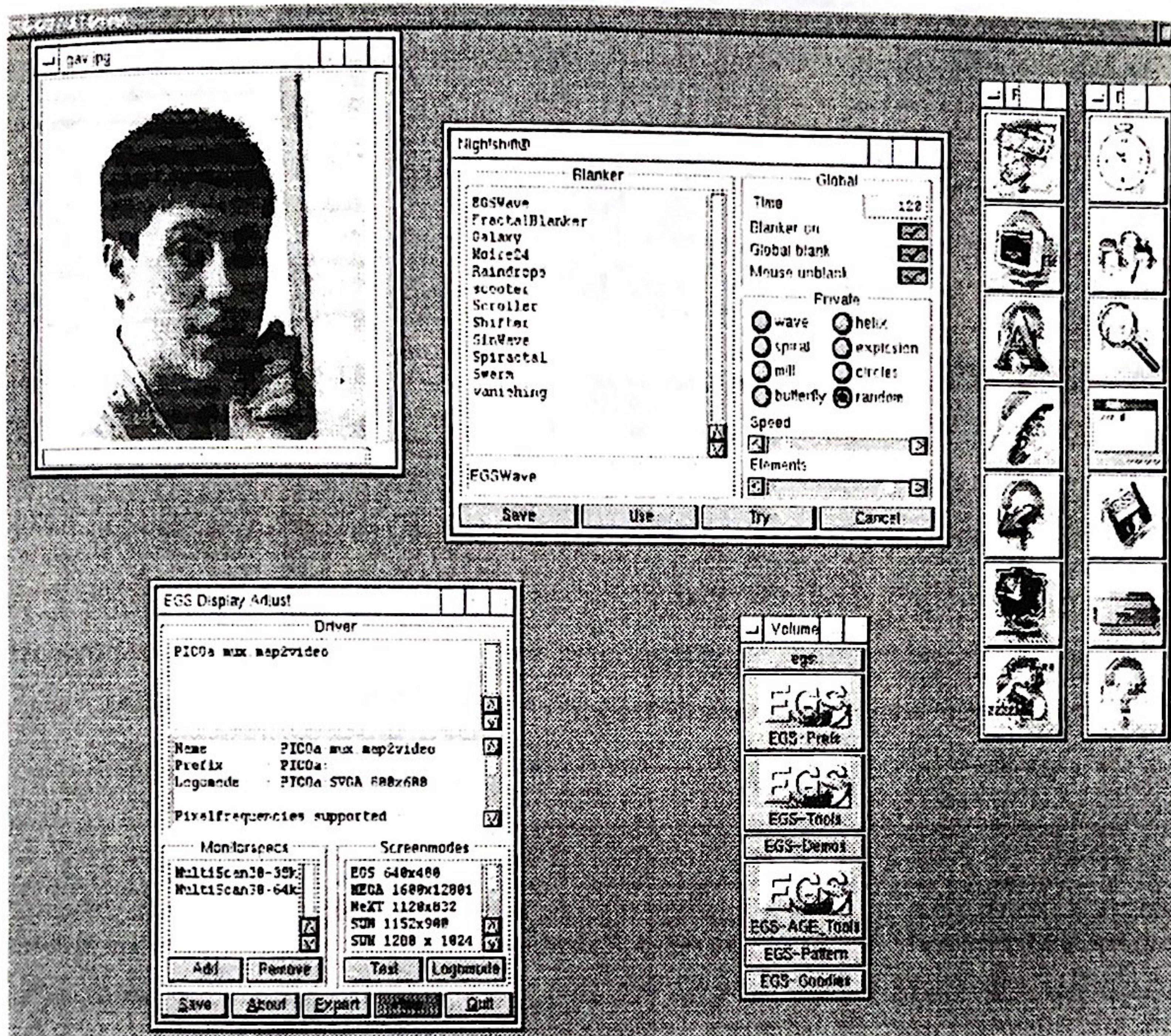
The Piccolo comes with either 2Mb or 4Mb of its own video memory, and is capable of displaying screens in resolutions from 640×480 through 800×600 all the way up to 1280×1024. The top mode of 1280×1024 is available in 16-bit colour if you expand the card to 4Mb. The high resolution modes really need a 17" monitor or better, and these are still quite expensive. I tested the card at 800×600 on a PC style 14" SVGA, and currently run at 1152×900 on a SUN workstation 19" monitor.

Nuts & Bolts

The Piccolo comes in a nice colourful box, containing the board itself, a pass-through cable, 5 manuals, and 3 disks containing the video drivers and other associated software.

Installation is quite simple: just slot the card in and go. You can work with two monitors (one for the Amiga output, and one for the Piccolo) or just one from the Piccolo. The card also has a pass-through feature, as found on most new graphics cards, so if any screens can't be promoted, the original Amiga signal can be output through the video connector on the Piccolo. *[Of course, your monitor has to be capable of displaying normal Amiga video for this to work ... you may find it useful to invest in a flicker fixer if you have a multi-sync monitor—Ed]*

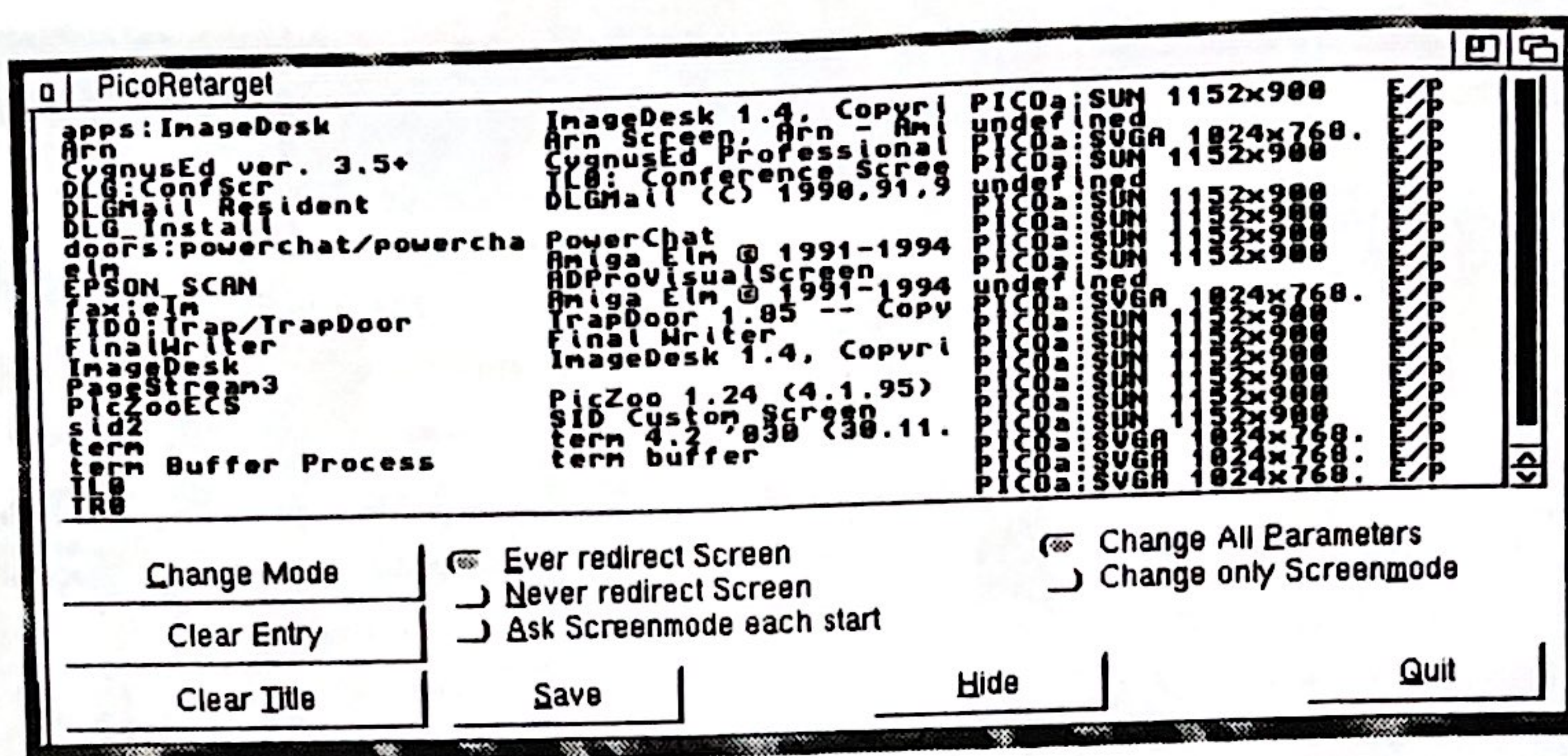
The software bundled with the Piccolo includes the EGS System, TVPaint Junior, PicoPainter and an Arexx multimedia system called Dia.



EGS completely replaces Workbench with its own 3D interface.

Installing the software was far from easy, and left me with the definite impression that these cards had just been imported from Germany for the show, and weren't quite ready for the English market. This, of course, was nothing to do with all the documentation and Install software being in German! Anyway, after many attempts, and lots of manual installing (and *SnoopDos* reports) I finally got it all working.

My first impression was, "Wow, what a big Workbench!" I could finally run my A3000 in 256 colours without the speed being a hassle. The Piccolo promotes its screens with *PicoRetarget*, which pops up whenever you open a new screen. You can then select screen mode and colours and save for future use. You can of course opt not to promote your screen, and this comes in handy when playing some games and demos, as well as some software that refuses to be promoted. So far Deluxe Paint is the only application I have found that crashes the system.



The Piccolo ReTarget utility lets old programs use new screenmodes.

Excellent Graphics System?

EGS is a complete replacement Workbench for the Amiga. EGS supports screens in 16 million colours and comes with a large selection of Workbench tools to tweak performance and adjust settings. EGS is still next to useless though, because no one really writes software for it. My advice is to upgrade to CyberGFX instead (see Kevin's article in the January newsletter).

EGSShow is a handy picture viewer. You can open multiple 24-bit pictures on the one screen, and move them around in real-time.

The version of EGSSystem which came with the board (V7) proved a bit buggy, and often crashed, but version 7.1, out a few days later, was much better. However, if the mouse is moved while opening a new screen, the system will lockup, which is rather annoying.

Overall, I'm quite impressed with the Piccolo, and consider it money well spent. However, keep an eye out for the new *CyberVision 64*, and also the rumoured *Picasso III*—both cards will probably give the Piccolo some stiff competition.

Diary Dates

Here's the schedule for the rest of the summer. Make a note in your diary!

- 17 June Father's Day! Bring your dad to CUGI as a treat :-)
- 16 July Editor's Birthday. Pity he won't be here...
- 20 Aug With the new monthly meetings, we no longer take an August break
- 17 Sep Last meeting of the CUGI year.

The CUGI Library

by Kevin Phair

THE CUGI library has a good selection of technical books pertaining to the Amiga, including works such as the ROM Kernel Reference Manuals (for 1.3 as well as 2.0), guides to the 68000 CPU and 68881/68882 FPU, and 'C' programming references. Also of interest to programmers is the *User Interface Style Guide*, which is the official guide on creating a standard user interface.

There are also some more general books, for example, the *Desktop Video Guide* and *Amiga Tricks and Tips*. If you have one of the older Commodore machines, such as the C64 or C128, you'll find plenty of books relating to the hardware and programming of those machines.

You are probably aware that the CUGI library also has some hardware available for loan. This includes an audio sampler, a video digitiser (the VIDI-12) and a hand-held scanner. Other items of general interest are Amiga-related videos and previous issues of the CUGI newsletter.

Here is a list of what is available through the library. This list is also available on CUGI-BBS which, to remind you, recently changed number to (01) 837 0204.

Commodore Reference Manuals

Amiga ROM Kernel, Libraries (2.0)

Amiga ROM Kernel, Devices (2.0)

Amiga ROM Kernel, Includes and AutoDocs (2.0)

Amiga ROM Kernel, Style Guide

Amiga ROM Kernel (full set of Kickstart 1.3 volumes)

AmigaDOS Manual 3rd Edition

Workbench 3.0 User's Guide

Workbench 3.0 User's Guide AGA Supplement

Enhancer Software (OS 1.3 reference)

Using the System Software (OS 2)

A2000, A500 Amiga BASIC Manual

A1200 User's Guide

A1200 User's Guide Service Supplement

1084S High Resolution Monitor Reference Manual

A590 Reference Manual

C Programming

Amiga C for Advanced Programmers (Abacus Books)

New C Primer Plus (The Waite Group)

The C Library (McGraw-Hill)

The C Programming Language - 2nd Edition (Kernighan and Ritchie)

Programming in C

C quick reference (Que)

General Interest

AmigaDos Inside and Out (Revised Edition also)

Amiga Disk Drives Inside and Out (Abacus Books)

Amiga for Beginners

Amiga Intern

Amiga Tricks and Tips (Abacus Books)

The Amiga System: An Introduction

Compute!'s Beginners Guide to the Amiga

Amiga for Beginners (Abacus Books)

Kids and the Amiga (Compute!)

Amiga Applications (Compute!)

Amazing Computing's guide to the Amiga (summer 92)

CD-ROM (vol 2) Optical Publishing (Microsoft Press)

Looking good in print

TCP/IP Network Administration

Amiga Format Book

ICPUG Newsletters

Graphics

Becoming an Amiga Artist

Deluxe Paint II User's Manual

"Amiga World" Official AmigaVision Handbook

Inside Amiga graphics (Compute!)

Using Deluxe Paint - 2nd edition (Compute!)

Amiga Desktop Video Power (Abacus Books)

Amiga Desktop Video Guide (Abacus Books)

"Video Toaster User" magazines

Programming

Amiga Guide for Advanced Programmers

Amiga World tech journal Dec 91

Amiga world tech journal Feb 92

68000 Pocketbook (Glentop)

MC68881/MC68882 Floating-Point Coprocessor User's Manual (Motorola)

Amiga Programmer's Handbook (Sybex)

Mapping the Amiga

Microcomputer Puzzles

Commodore 64/128

C64 Programmers Reference Guide

C128 Programmers Reference Guide

C64 Service Manual

C128 Service Manual

Advanced C64 Machine Code

The Anatomy of the C64

The Anatomy of the 1541

Hardware

Audio Sampler

Video Backup System

2400 baud Modem

Video Digitiser

Power Scanner

Games Software (NEW)

Castle Master

Mercenary

StarFleet I

Murder!

ArmourGeddon

Gunship

TV Sports Baseball

John Madden American Football (Platinum Edition)

Indianapolis 500 (Platinum Edition)

Videos

History of the Amiga

The Deluxe Paint IV Video Guide

Amiga Animation Video Volume 2

CU Amiga's Guide to Amiga Video

Space Wars

New CD-ROM Additions

CUGI recently added two new CD-ROMs to its library. *Gold Fish* contains all 1,000 Fred Fish disks, while *Fresh Fonts* has over 100 shareware fonts, each in Adobe, Bitmap, CompuGraphic and TrueType formats.

The library also received some classic games (listed above) from Tommy Rolfs, as he left for pastures new. Thanks Tommy, and good luck!

Library Rules & Fees

Starting from February 1995, the charges and fines are now updated to reflect the change from bi-weekly to monthly meetings. The fine for overdue items is now £1.00 (increased from 50p). This is hardly excessive, since I've not yet had to enforce it. Currently, charges are as follows:

<i>Item/Category</i>	<i>Deposit</i>	<i>Rental</i>
Sampler	£5	£2
Video Backup System	£5	£2
Modem	£5	£2
Video Digitiser	£10	£5
Scanner	£20	£5
CD-ROMs	£4	£1
Videos	£2.50	£2.50
Games	£2	£1

The deposit for the scanner is relatively high because it is a delicate piece of hardware.

Since items in the library are effectively investments by the user group and members thereof, it is expected that members borrowing hardware items should be especially careful that the instructions are read and understood before use. The same guideline applies to the other items available.

Thank You

Suggestions for library services are welcome, as are donations of items for inclusion in the library! Anyone interested in any items (whether listed or not) is welcome to talk to me at any of the monthly meetings.

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